

**UNITED STATES DISTRICT COURT**  
**NORTHERN DISTRICT OF CALIFORNIA**  
**SAN JOSE DIVISION**

CISCO SYSTEMS, INC.,  
Plaintiff,

v.

ARISTA NETWORKS, INC.,  
Defendant.

Case No. 14-cv-05344-BLF

**FINAL ORDER RE ANALYTIC  
DISSECTION AND SCOPE OF  
PROTECTION**

Plaintiff Cisco Systems, Inc. (“Cisco”) brings this lawsuit against Defendant Arista Networks, Inc. (“Arista”), alleging infringement of Cisco’s copyrights and one of its patents – U.S. Patent No. 7,047,526 (the “’526 patent”). Second Am. Compl. (“SAC”), ECF 64. Currently before the Court are the parties’ briefing and argument on the issue of analytic dissection. The parties have agreed that certain issues pertaining to analytic dissection can be resolved without an evidentiary hearing. ECF 605 (“Joint Submission re Analytic Dissection Categories Suitable for Decision Without Evidentiary Hearing”). The Court thus sets forth below its ruling on issues of analytic dissection for which an evidentiary hearing is not required.

**I. BACKGROUND**

For its copyright infringement claim, Cisco asserts that Arista infringes the user interfaces found in four Cisco operating systems as well as the associated technical documentations. SAC ¶ 27; Cisco Br. Re Copyrighted Work 2. Cisco owns twenty-six copyright registrations based on various versions of its four operating systems. SAC ¶ 25; Cisco’s Analytic Dissection Br. (“Cisco Br.”) 2-3, ECF 619. The operating systems were developed for use with Cisco’s networking

1 products, including its routers and switches. SAC ¶ 6; Submission of Protectable Elements (“PE”) 2, ECF 552; Cisco Br. 3.

3 Cisco’s operating systems employ text-based user interfaces (sometimes referred to by 4 Cisco as command line user interfaces or “CLI”), which is the primary mechanism for network 5 engineers to interact with switches and routers. Cisco Br. 3. When a network engineer or system 6 operator types multiword command expressions into the user interface, the expressions are then 7 displayed on a screen that is connected to the networking device. *Id.*; PE 2. Cisco claims that 8 more than 500 of such multiword command expressions across four operating systems are 9 protectable and copied by Arista. Cisco’s Opening Bench Br. Re: Copyright Protectability 10 (“Cisco Bench Br.”) 2-3, ECF 456. Examples of multiword command expressions include “boot 11 system,” “show inventory,” “area nssa translate type7 always,” and “spanning-tree portfast 12 bpdupfilter default.” PE 3-33. According to Cisco, these command expressions are also grouped 13 by initial words into collections to reflect multi-level textual hierarchies. *Id.* at 36; Cisco Bench 14 Br. 2. For illustration purposes, part of the “show” command hierarchy is shown below.

```
15     show
16         show arp
17         show clock
18         show environment
19             show environment all
20             show environment power
21             show environment temperature
```

22 Once the operator inputs a multiword command expression, the switch or router analyzes 23 the command and responds by displaying textual screen outputs on screen. Cisco Bench Br. 2. 24 Cisco refers to these textual displays in response to the operator’s input as command responses or 25 command outputs. PE 80. The Cisco CLI further provides a selection of modes that permit an 26 operator to access greater or fewer command expressions based on operator status. PE 34. For 27 example, an operator who has entered “Privilege EXEC” mode will have access to different 28 commands than a user who is in “User EXEC” mode. *Id.* Different modes are indicated by 29 different textual titles and different textual prompts that appear on the screen (e.g., “(config-if)#” 30 or “(config)#”). *Id.* These prompts are used to indicate to the operator which mode he or she is in, 31 and thus which commands the operator has access to. *Id.* Additionally, the Cisco CLI allows the

operator to ask for help in using the multiword command expressions by typing a command followed by “?”. Cisco Bench Br. 2. The screen will then display text that describes the command or any other information to assist the operator in managing or configuring the network device in relation to the inquired command. *Id.*; PE 98. Lastly, Cisco provides technical documentation that gives users descriptions of Cisco CLI’s operations, which is also commonly referred to as user manuals or reference manuals. PE 111.

Based on its CLI, Cisco has identified the following list of protectable elements for trial – (1) multiword command expressions; (2) multiword command hierarchies; (3) modes and prompts; (4) command responses; (5) help descriptions; and (6) technical documentation. PE; Cisco Br. 1. According to Cisco, elements (1) to (5) constitute a subset, or building blocks, that Cisco has selected out of the total user interfaces to reflect only the protectable elements copied by Arista. *Id.* at 3, 5, 19. Similarly, Cisco has identified allegedly protectable portions of its technical documentation that Arista copied as the sixth category of protectable elements. *Id.* at 1, 19.

Arista disagrees that these elements identified by Cisco are protectable and has provided argument directed to each of the six categories as to why the Court should find them unprotectable. Arista Analytic Dissection Br. (“Arista Br.”), ECF 618. Based on the parties’ arguments, the Court analyzes below each of the six categories of asserted protectable elements.

## II. LEGAL STANDARD

### A. Extrinsic and Intrinsic Tests

The Ninth Circuit employs a two-part test for determining whether one work is substantially similar to another in a copyright case. *Shaw v. Lindheim*, 919 F.2d 1353, 1356 (9th Cir. 1990). The test permits a finding of infringement only if a plaintiff proves similarity under the “extrinsic test,” and sufficient similarity, depending upon the degree of protection found by the court, of the protectable expression under the “intrinsic test.” *Id.* A copyright plaintiff could satisfy the extrinsic test by providing an “indicia of a sufficient disagreement concerning the substantial similarity of the two works.” *Swirsky v. Carey*, 376 F.3d 841, 846 (9th Cir. 2004) (internal brackets omitted). “[T]he intrinsic test, which examines an ordinary person’s subjective

impressions of the similarities between two works, is exclusively the province of the jury.” *Funky Films, Inc. v. Time Warner Entm’t Co., L.P.*, 462 F.3d 1072, 1077 (9th Cir. 2006). The measure of how substantial a “substantial similarity” must be varies according to the scope of protection. 4 Nimmer on Copyright § 13.03[A][4] (2015). For example, if the scope of protection is determined to be “thin,” the standard of virtual identity is applied at the “intrinsic” stage. *Mattel, Inc. v. MGA Entm’t, Inc.*, 616 F.3d 904, 914 (9th Cir. 2010).

Turning to the extrinsic prong, the test for similarity is based on external criteria, where “analytic dissection and expert testimony could be used.” *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1442 (9th Cir. 1994). The extrinsic test involves three basic steps:

1. The plaintiff must identify the source(s) of the alleged similarity between his work and the defendant’s work.
2. Using analytic dissection . . . , unprotectable ideas must be separated from potentially protectable expression; to that expression, the court must then apply the relevant limiting doctrines in the context of the particular medium involved, through the eyes of the ordinary consumer of that product.
3. Having dissected the alleged similarities and considered the range of possible expression, the court must define the scope of the plaintiff’s copyright—that is, decide whether the work is entitled to “broad” or “thin” protection. Depending on the degree of protection, the court must set the appropriate standard for a subjective comparison of the works to determine whether, as a whole, they are sufficiently similar to support a finding of illicit copying.

*Id.* at 1443.

## **B. Analytic Dissection**

“[Copyright] protection extends not only to the ‘literal’ elements of computer software – the source code and object code – but also to a program’s nonliteral elements, including its structure, sequence, organization, user interface, screen displays, and menu structures.” *Gen. Universal Sys., Inc. v. Lee*, 379 F.3d 131, 142 (5th Cir. 2004); *O.P. Sols., Inc. v. Intellectual Prop. Network, Ltd.*, 1999 WL 47191, at \*6 (S.D.N.Y.1999).

However, “[t]he mere fact that a work is copyrighted does not mean that every element of the work may be protected.” *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 348 (1991). “Because only those elements of a work that are protectable and used without the author’s

1 permission can be compared when it comes to the ultimate question of illicit copying, [courts use]  
 2 analytic dissection to determine the scope of copyright protection before works are considered ‘as  
 3 a whole.’” *Apple*, 35 F.3d at 1443. To conduct analytic dissection, courts must “filter out as  
 4 unprotectable the ideas, expression necessarily incident to the idea, expression already in the  
 5 public domain, expression dictated by external factors (like the computer’s mechanical  
 6 specifications, compatibility with other programs, and demands of the industry served by the  
 7 program), and expression not original to the programmer or author.” *Atari Games Corp. v.*  
 8 *Nintendo of Am., Inc.*, 975 F.2d 832, 839 (Fed. Cir. 1992); *Johnson Controls, Inc. v. Phoenix*  
 9 *Control Sys., Inc.*, 886 F.2d 1173, 1175 (9th Cir. 1989).

10 “Likewise, computer programs are subject to a[n] . . . analytic dissection of various  
 11 standard components, *e.g.*, screens, menus, and keystrokes.” *Brown Bag Software v. Symantec*  
 12 *Corp.*, 960 F.2d 1465, 1477 (9th Cir. 1992). Specifically for computer software, “if constituent  
 13 elements of a screen display or user interface lack requisite originality, or are outside the scope of  
 14 copyrightable material under 102(b), or are otherwise unprotectable, the selection, coordination,  
 15 and arrangement of such elements may be protectable, even though those individual elements are  
 16 not.” *O.P. Sols.*, 1999 WL 47191, at \*9 (citing *Apple Computer, Inc. v. Microsoft Corp.*, 799 F.  
 17 Supp. 1006, 1022-23 (N.D. Cal. 1992)). However, this “combination of unprotectable elements is  
 18 eligible for copyright protection only if those elements are numerous enough and their selection  
 19 and arrangement original enough that their combination constitutes an original work of  
 20 authorship.” *Satava v. Lowry*, 323 F.3d 805, 811 (9th Cir.2003).

### 21 **C. Abstraction-Filtration-Comparison Test**

22 Relatedly, the Federal Circuit has interpreted Ninth Circuit’s test of copyright infringement  
 23 to be the same as the “abstraction-filtration-comparison” test formulated by the Second Circuit.  
 24 *Oracle Am., Inc. v. Google Inc.*, 750 F.3d 1339, 1357 (Fed. Cir. 2014). The “abstraction” step  
 25 involves breaking down the allegedly infringed program into its constituent structural parts, and  
 26 during the “filtration” step, the court “sift[s] out all nonprotectable material.” *Id.* Lastly, for the  
 27 comparison step, the remaining creative expression is compared with the allegedly infringing  
 28 work. *Id.* Accordingly, the “filtration” step is similar, if not the same, as the analytic dissection

1 step set forth by the Ninth Circuit and discussed above.

2 The Federal Circuit also held that in the Ninth Circuit, limiting doctrines such as merger  
3 and scènes à faire are affirmative defenses to claims of infringement. *Id.* at 1358. In drawing this  
4 conclusion, the Federal Circuit relied upon the Ninth Circuit’s discussion in *Ets-Hokin v. Skyy*  
5 *Spirits, Inc.*, 323 F.3d 763, 765 (9th Cir. 2003) and *Satava v. Lowry*, 323 F.3d 805, 810 n.3 (9th  
6 Cir.2003) (“The Ninth Circuit treats scènes à faire as a defense to infringement rather than as a  
7 barrier to copyrightability.”). Here, Arista asserts both the merger and scènes à faire doctrines.  
8 The parties agree, however, that the jury will apply these two limiting doctrines so the Court need  
9 not address these two issues in this order. Cisco Br. 8-9; Arista Reply 2, ECF 651 (stating that  
10 scènes à faire is to be presented at trial); Arista Br. Re Analytic Dissection 3-4, ECF 455 (noting  
11 that the Ninth Circuit applies these doctrines at the analytic dissection stage).

### 12 **III. ANALYTIC DISSECTION**

13 As the first step of the extrinsic test, Cisco has identified the protectable elements in six  
14 categories or “building blocks” as the sources of copyright infringement. *Apple*, 35 F.3d at 1443.  
15 Cisco seeks protection for each of its building blocks in its own right, or as a combination of these  
16 elements, as a compilation. Cisco Br. 7, 19. According to Cisco, it has pre-filtered its user  
17 interfaces to select only those elements that are protectable and copied by Arista. Cisco Br. 1. As  
18 such, Cisco argues that all these elements should be presented to the jury as evidence of copying.  
19 *Id.* at 4-5. Not surprisingly, Arista disagrees. The Court undertakes its own review of the asserted  
20 elements in each category.

21 For each category of protectable elements, Arista raises several arguments as to why the  
22 selected elements are not protectable. The analysis below tracks each ground raised by Arista and  
23 the parties’ respective arguments.

#### 24 **A. Multiword Command Line Expressions**

25 Cisco properly describes its CLI user interface as a textual work. That being said, it is  
26 important to recognize that the multiword command expressions of the Cisco CLI are not  
27 sentences or commonly used phrases as would be found in books or other literary works. They are  
28 more properly described as groupings of two, three, or four terms, many of which are not words,

1 but are terms and abbreviations recognizable to the networking industry. Arista Br., Ex. 20 (Black  
2 Rpt.) ¶ 649; Ex. 1 (Black Am. App. K); PE 3-33. Use of these command expressions allows  
3 network operators to communicate through their computers to obtain information about the  
4 switches and routers and to configure them.

5 Cisco contends that these submitted multiword command expressions are protectable  
6 elements of Cisco's user interface not only as individual command expressions but also as  
7 collections of multiword command expressions associated with specific operating systems,  
8 identified as IOS, IOS-XR, IOS-XE, and NX-OS. PE 2, ECF 552-1. It also clarifies that it does  
9 not seek to have a jury consider the following elements as protectable: single words, command  
10 prefixes that the user interface autocompletes, minimum syntactic length, and idea of using a  
11 syntax. Cisco Br. 1, 7, 8, 11.

12 **i. Pre-existing industry terminology**

13 In support of its argument that the expressions are protectable, Cisco contends that they  
14 originated from Cisco's engineers and meet the required minimal degree of creativity. *Id.* at 6.  
15 Cisco also claims that Arista's own executives and engineers have conceded the "subjective"  
16 nature of the process in creating these commands. *Id.*

17 Arista argues that almost all the terms in the expressions are well-known and ordinary in  
18 the field of networking. Arista Br. 2-3. For example, Arista claims that the terms are  
19 conventional terms or acronyms that come directly from industry standards, including the Internet  
20 Engineering Task Force ("IETF") and The Institute of Electrical and Electronics Engineers  
21 ("IEEE"). *Id.* at 3, Ex. 1 (Black Am. App. K); Arista Reply 3. According to Arista, Cisco's own  
22 documents and witnesses confirm that Cisco intentionally used well-known terminology in the  
23 command expressions. Arista Br. 4. Arista also seeks a jury instruction that the use of the pre-  
24 existing terminology, such as "area" and "nssa," by itself, is not protectable. Arista Reply 3.

25 The Court first notes that it is undisputed that many of the terms used in Cisco's multiword  
26 command expressions were commonly known in the industry at the time Cisco created its asserted  
27 work, for which no originality can be claimed. For example, the acronym "aaa," a term in several  
28 of Cisco's command expressions, comes from the phrase "authentication, authorization, and



accounting,” and was first used as a discrete term as early as 1983 in an IEEE paper. Arista Br., Ex. 4 ¶¶ 2-4 (Black App. A). Since Cisco was founded in 1984, SAC ¶ 1, the existence of “aaa” in 1983 must predate any creation of the works asserted here. Terms such as “aggregate-address” were also common industry terms at the time the command expressions were added to the Cisco operating systems. Arista Br., Ex. 3 (Tr. Ex. 9043). Other acronyms and terms such as “accounting,” “nssa,” and “dot1x” are industry standard terms that have been defined by IETF or IEEE. *Id.*, Ex. 2 (Tr. Ex. 9044); Ex. 5 ¶¶ 2-3 (Black App. B) (explaining that “IEEE Standard 802.1X” is an IEEE standard for port-based network access control that is also referred to as “dot1x”).

Given Arista’s un rebutted evidence, the Court finds persuasive that the individual terms and abbreviations in command expressions are predominantly taken from terms in common use in the networking industry predating Cisco’s CLI. *E.g.*, Arista Br., Ex. 1 (Black Am. App. K). Cisco, by not seeking protection for individual terms, acknowledges this conclusion. Cisco Br. 7. However, the selection and arrangement of these commands into a collection may be entitled to protection as a compilation. The multiword command expressions are numerous and Cisco has submitted significant evidence of the process it used to create those command line expressions through the testimony of multiple witnesses including Kirk Loughheed, Phillip Remaker, and Davadas Patil. *E.g.*, Cisco Br. Ex. 7 (“Loughheed Dep. Tr.”) 338:24-339:9 (“Writing any piece of software involves some degree of creativity”); Arista Br., Ex. 16 (“Remaker Dep. Tr.”) 98:22-99:12 (“The hierarchy is the aesthetic of collecting similar commands together”); Cisco Br., Ex. 10 (“Patil Dep. Tr.”) 187:1-9 (considering extensibility and aesthetics). Moreover, Arista witnesses agreed that such selection and arrangement is a subjective determination. *E.g.*, *id.*, Ex. 11 (“Sweeney Dep. Tr.”) 184:7-14, 185:2-12 (“I agree that CLI naming is very subjective”). Cisco need only produce some minimal level creativity. *Feist*, 499 U.S. at 348; *O.P. Sols.*, 1999 WL 47191, at \*9; *Satava*, 323 F.3d at 811.

Given that Cisco is not asserting isolated words as protectable elements, the next question for analytic dissection is whether there are lines of expressions or groups of expressions to be filtered out. However, evidence available to the Court at this juncture fails to show that one or



more command line expressions preexisted as industry expressions. As such, the Court does not dissect out any multiword command line expression based on this ground.

**ii. Elements dictated by external constraints**

As to whether the expressions are “dictated by external constraints,” Cisco contends that Arista’s arguments and evidence relate to Arista’s *scènes à faire* affirmative defense, which is a defense to infringement and beyond the scope of analytic dissection. Cisco Br. 8-9 (citing to *Oracle*, 750 F.3d at 1360). As stated above, the Court agrees with Cisco’s position and will follow the Federal Circuit’s summary and application of Ninth Circuit law. *Oracle*, 750 F.3d at 1358 (citing *Ets-Hokin*, 323 F.3d at 765; *Satava*, 323 F.3d at 810 n.3). Thus, the Court will not consider this issue here.

**iii. Unprotectable words and short phrases**

Cisco contends that short phrases can be protectable regardless of how short the phrase may be so long as they contain some appreciable level of creativity. Cisco Br. 10. Cisco reiterates that its multiword command expressions are original and derived from a creative process. *Id.* For example, Cisco argues that the selection of “show” is original because words such as “‘display,’ ‘print,’ ‘watch,’ ‘view,’ or ‘info’ are equally sufficient ways to express this idea.” Almeroth Ex. A (“Almeroth Rpt.”) ¶ 111.<sup>1</sup> Insofar as Cisco has acknowledged that the individual terms are not subject to protection in this case, this argument is not persuasive. Cisco further argues that the arrangement of terms allowed for creation of hierarchies that are “aesthetically pleasing,” “easy to understand,” and easy to teach, and are thus creative. *Id.* ¶¶ 114-15.

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<sup>1</sup> Cisco’s example of selection of the “show” command perhaps best reveals the limitations of its argument. Although the variety of terms that could have substituted for “show” superficially appear to be reasonable alternatives, Dr. Almeroth’s example presumes that the engineers worked in a bubble, ignoring the pre-existing industry preference and use of the “show” command. It is not plausible that engineers would abandon the accepted terminology for a novel term. It even stretches credulity to imagine engineers even entertaining any of the suggested alternative terms. *E.g.*, Arista Br., Ex. 16 (“Remaker Dep. Tr.”) 69:7-70:13 (stating that “picking command words that would be familiar to people in the industry” ensures “consistency, usability, and friendliness of the interface” and agreeing that customers “would expect CLI commands to use words that would be familiar to people in the industry”); *id.*, Ex. 20 (“Black Rpt.”) ¶¶ 603-04 (noting that the Cisco Parser Police Manifesto placed constraints on the addition of commands to Cisco CLI, such as “pick[ing] names that would be familiar to people in the industry” and “commands should tend to be self-explanatory”).

Arista counters that commands of four words or fewer are unprotectable. Arista Br. 5. Arista points out that 188 commands are only two words, 208 are three words, and 420 are three words or fewer. *Id.* at 6. Arista further argues that such short phrases are either primarily factual or “ordinary,” and thus cannot be protected. *Id.* (citing *Narell v. Freeman*, 872 F.2d 907, 911 (9th Cir. 1989)).

The relevant question is whether those phrases are creative regardless of their length. Even a short phrase may command copyright protection if it exhibits sufficient creativity. *Oracle Am.*, 750 F.3d at 1362. “The particular sequence in which an author strings a significant number of unprotectable elements can itself be a protectable element.” *Metcalf v. Bochco*, 294 F.3d 1069, 1074 (9th Cir. 2002). However, ordinary phrases are not entitled to copyright protection. *Narell*, 872 F.2d at 911; *J. Racenstein & Co. v. Wallace*, No. 96-9222, 1999 WL 632853, at \*2 (S.D.N.Y. Aug. 19, 1999) (holding that “safety core” is not protectable because “it is at most an insubstantial rearrangement of only two words borrowed from other sources”).

As noted above, the Court will instruct the jury that there is no copyright protection for individual words. With respect to individual 500+ command line expressions, however, the Court finds no authority, and Arista has provided none, that endorses a categorical exclusion from protectability based solely on the length of a phrase. Arista’s expert argues that for phrases as short as four terms or less, “there are very few available reasonable options for such short phrases.” Arista Br., Ex. 20 (Black Rpt.) ¶ 649. Although the Court does not disagree that if there are no available reasonable options, the phrase would not be protectable because of external constraints, not because of its length. *Apple*, 35 F.3d at 1444 (considering external constraints). Accordingly, the Court does not dissect out individual command line expressions based solely on the length of the phrases.

#### **iv. Conventional command syntax**

Arista argues that Cisco’s command expressions rely extensively on a first word that is preexisting in the industry followed by relevant attributes, resulting in commands sharing the syntax – “[verb] [object or entity] [additional parameters].” Arista Br. 7-8. In response, Cisco asserts that it does not claim protection in command syntax. Cisco Br. 11; Cisco Resp. 6.

1 Because Cisco does not claim protection in command syntax, the Court will instruct the jury that  
2 there is no protection for syntax, obviating the need for analytic dissection on this ground.

3 **v. “Commands” that are not accepted by any Cisco or Arista switch;**  
4 **commands not grounded in Cisco’s actual works or that Cisco did not**  
5 **disclose in discovery**

6 Cisco argues that its command expressions are not incomplete as alleged by Arista. Cisco  
7 Br. 11-12. Instead, Cisco claims that even though certain commands may accept additional user-  
8 provided inputs or parameters, such conditions do not affect their protectability. *Id.* at 12; Cisco  
9 Response 10, ECF 653 (citing *Apple*, 35 F.3d at 1444 (noting that “user participation may not  
10 negate copyrightability of an audiovisual work” in a *scènes à faire* analysis); *Eng’g Dynamics, Inc.*  
11 *v. Structural Software, Inc.*, 26 F.3d 1335, 1342 (5th Cir. 1994)).

12 In response, Arista argues that these commands as arranged and compiled by Cisco did  
13 not exist before this litigation and also in total comprise a small fraction of the total commands in  
14 the relevant work. Arista Br. 8-9.

15 Arista has not provided any authority holding that omission of additional parameters alone  
16 would render these expressions unprotectable. The Court notes that Cisco, as plaintiff, is free to  
17 select the purported protectable elements copied by Arista as the first step of the extrinsic test prior  
18 to the Court’s analytic dissection. This selection itself does not bear on protectability. As to  
19 whether the asserted command expressions comprise a small fraction of the total commands, the  
20 Court finds this point raised by Arista more salient to the definition of the asserted work, which  
21 the Court will address separately.

22 **vi. Conclusion regarding multiword command line expressions**

23 Having considered the remaining protectable elements of the multiword command line  
24 expressions, the Court concludes that at most this building block is protectable as a compilation.  
25 As Cisco argues, the creativity is found in the selection and arrangement of the command line  
26 expressions. Further, no single command stands alone as a creative work because each one is  
27 compiled as a part of a larger design based on a hierarchical structure. Each line is interrelated to  
28 all of the others for consistency. *E.g.*, Arista Ex. 16 (“Remaker Dep. Tr.”) 69:7-70:13 (stating that  
“picking command words that would be familiar to people in the industry” ensures “consistency,

usability, and friendliness of the interface”), 54:1-2 (“The hierarchy is the aesthetic of collecting similar commands together”); Ex. 30 (“Lougheed Dep. Tr.”) 318:4-9 (stating that the symmetry of the hierarchy affects the selection of words); Ex. 42 (“Lougheed Dep. Tr.”) 155:12-21 (discussing the choice of words in the creation of hierarchy), 156:14-18 (aiming for a set of commands to create a hierarchy).

## **B. Command Hierarchies**

Cisco argues that the command hierarchies are part of the user interfaces, and contends that Arista’s objection is not relevant to filtration. Cisco Br. 14. Arista counters that the asserted hierarchies are drawn from multiple versions of the operating systems and are incomplete selections of the actual hierarchies in Cisco’s works. Arista Br. 9-10; Arista Reply 8-9. Arista thus seeks a finding that the hierarchies selected by Cisco are unprotectable. Arista Br. 10. Arista separately objects to the protectability of the hierarchies grouped by initial words and dictated by function. Arista Br. 10-11.

At oral argument, the parties discussed with the Court the relationship between the hierarchies and the individual command line expressions. After its presentation, Cisco agreed to withdraw from trial command hierarchies as a protectable building block of its user interfaces, separate from its command line expressions. However, Cisco still plans to present evidence showing that the process used to create the command line expressions was related to each command expression’s organization in the hierarchies. Arista did not object to Cisco’s removal of hierarchies as a separately protectable building block and Cisco’s plan to present such evidence in support of its multiword command expressions as protectable elements. Based on this agreement, the jury will be instructed that the hierarchies are not protectable elements.

## **C. Command Modes and Prompts**

### **i. The names of particular modes and prompts**

Cisco claims protection not in individual modes and prompts in isolation, but rather the particular arrangement of modes and prompts in Cisco’s user interface, which are components of Cisco’s distinctive user interface. PE 34; Cisco Br. 15. Arista points to this concession and

1 requests a related jury instruction. Arista Br. 11. The Court will allow an appropriate jury  
2 instruction to this effect.

3 **ii. Not grounded in an actual work or that Cisco did not disclose in discovery**

4 Cisco reiterates the argument that whether its asserted modes and prompts comprise a  
5 small set of Cisco or Arista's overall modes and prompts does not bear on analytic dissection.  
6 Cisco Br. 15. Arista claims that Cisco's "arrangement" is only a small portion of the modes in  
7 Cisco's operating systems. Arista Br. 11 (claiming that there are more than 70 modes and prompts  
8 not asserted in a version of a Cisco operating system), Ex. 28 (Cisco User Manual). The Court  
9 agrees with Cisco on this point, finding that Arista's argument is more pertinent to the jury's  
10 comparison of the works.

11 **iii. Idea of making certain commands available only in certain modes**

12 Cisco argues that its engineers chose the modes' indicators, prompts, and levels of  
13 permission from "a number of possibilities" "on the basis of aesthetics." Cisco Br. 15. Cisco  
14 attempts to distinguish pre-existing modes and prompts from its own modes and prompts by  
15 arguing that the pre-existing systems provided the idea of the modes and prompts but not the  
16 particular modes and prompts at issue here. *Id.* at 15-16. In response, Arista provides evidence to  
17 show that Cisco's selection of modes is not original. Arista Br. 11. Arista's expert claims that  
18 Cisco's modes and prompts are essentially methods that had previously existed in another system  
19 called TOPS-20 that has been in use since 1970s. Arista Ex. 20, (Black Rpt.) ¶¶ 548 et seq. Other  
20 systems, such as UNIX (*id.* ¶ 554), SUMEX (*id.* ¶¶ 554, 580), and MS-DOS (*id.* ¶ 573) also had  
21 employed the same methods. *Id.*, Ex. 20.

22 At oral argument, Cisco clarified to the Court the "particular" modes and prompts it is  
23 asserting. Cisco explained that in most of its operating systems, its asserted modes and prompts  
24 encompass the four levels of modes: "User EXEC," "Privileged EXEC," "Global Configuration,"  
25 and "Interface Configuration", and their corresponding prompts: ">," "#," "(config)#," and  
26 "(config-if)#," as well as the relationship of the four modes with respect to their accessibility. PE  
27 34-35. According to Cisco, one needs to access "User EXEC" before accessing "Privileged  
28 EXEC," and can only access "Global Configuration" after enabling "Privileged EXEC," etc.

1 First, had Cisco failed to limit its asserted modes and prompts as described above, Cisco's  
2 expression of modes and prompts might be so closely tied to the idea of modes and prompts, to  
3 "be termed ideas beyond the ownership." *Apple*, 799 F. Supp. at 1023; *Sid & Marty Krofft*  
4 *Television Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1168 (9th Cir. 1977) (noting that  
5 "[t]he idea and the expression will coincide when the expression provides nothing new or  
6 additional over the idea"). Given Cisco's precise description of its asserted modes and prompts,  
7 the Court is persuaded that this particular description differs from the "idea" or "function" of  
8 modes of prompts to qualify as an expression.

9 Second, although it seems clear that virtually all of the individual elements of the asserted  
10 modes and prompts existed prior to Cisco's creation, the selection and arrangement of the  
11 identified modes and prompts can be claimed as original. *E.g.*, *Arista Br.*, Ex. 20 (Black Rpt.) ¶  
12 554 (stating that UNIX had a "root user" account and a "superuser" account, as well as the "#"   
13 prompt); Ex. 20 ¶ 573 (stating that MS-DOS had a user prompt ">"); Ex. 20 ¶ 580 (stating that  
14 SUMEX had prompts such as "#" and ">").

15 Cisco is not asserting protection for individual modes and prompts on their own but  
16 protection for the entire compilation of these modes and prompts. Accordingly, the Court agrees  
17 that the compilation of asserted modes and prompts in each asserted operating system is  
18 protectable.

#### 19 **D. Command Responses and Screen Displays (Responses and Screen Outputs)**

20 Cisco contends that the following command responses (also referred to as command  
21 outputs) are protectable elements of Cisco's user interface both individually and as a collection of  
22 outputs associated with specific operating systems, identified as IOS and NX-OS. PE 80. Cisco  
23 also claims protectability of element encircled in each red box. *E.g.*, *id.* at 80, 84. In support of  
24 protection, Cisco argues that Cisco engineers were faced with "endless aesthetic choices for each  
25 of the numerous screen outputs." *Cisco Br.* 16. *Arista* raises the same objections to this category  
26 of protectable elements as those to "multiword command line expressions." *Arista Br.* 12.

27 The Court's analysis for this category remains the same as that for "multiword command  
28 line expressions" above. In sum, there is no protection for single words, command prefixes that

the user interface autocompletes, minimum syntactic length, and the idea of using command syntax. The Court does not dissect out additional unprotectable elements based on the written record and finds that the command responses are protectable as a compilation corresponding to each operating system.

#### **E. Helpdesc Command Responses (Help Descriptions)**

Cisco contends that the following multiword help descriptions (also known as help strings, help text, or helpdesc) are protectable elements of Cisco's user interface both individually and as collections of help descriptions associated with specific operating systems, identified as IOS and IOS-XR. PE 97. It also clarifies that it is not seeking to protect the "idea" of help description in a user interface or the use of "?" to call up help descriptions. Cisco Br. 1. Arista argues that the help descriptions are not protectable for the same reasons as those it makes against the protectability of "multiword command line expressions." Arista Br. 12-13. Reasons include short words and phrases, lack of disclosure during discovery, and the concept of providing a help system. *Id.* at 13.

As noted above, a short phrase may be protectable if it exhibits sufficient creativity but ordinary phrases, such as "most personal sort of deodorant," are not protectable. *Oracle Am.*, 750 F.3d at 1362; *Narell*, 872 F.2d at 911 (holding that "[p]hrases and expressions conveying an idea typically expressed in a limited number of stereotyped fashions are not subject to copyright protection"). Here, the help descriptions consist of phrases such as "32-bit tag value," "authentication parameters for the user," "delete a file," "Directory or file name," "File to be deleted," "File to display," "Name of the group," "Name of the user," "Rename a file," "Show summary information," "Source file path," "Verify a file," etc. To qualify for protection on its own, the phrase must exhibit a sufficient degree of creativity to distinguish it from "ordinary phrases." These and other individual help descriptions appear to be not only ordinary to networking engineers, but also to a lay person. Moreover, they refer to mostly factual or functional events pertaining to network switches and routers. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 (9th Cir. 1992) ("To the extent that a work is functional or factual, it may be copied, . . . as may those expressive elements of the work that 'must necessarily be used as



incident to' expression of the underlying ideas, functional concepts, or facts") (internal citation omitted). In an attempt to support the existence of sufficient creativity, Cisco argues, for example, that the word "display" could be used instead of "show." Almeroth Rpt. ¶ 111.<sup>2</sup> However, such selection of words merely demonstrates that the phrases can be expressed in "a limited number of stereotyped fashions," and cannot meet the minimum threshold of creativity in this case. *Narell*, 872 F.2d at 911. Accordingly, the Court finds that the individual help descriptions are not protectable.

Nevertheless, the Court finds protectable the collection of help descriptions associated with each of the operating systems, IOS and IOS-XR. This is because the combination of unprotectable elements is still eligible for copyright protection given that the help descriptions as a collection "are numerous enough and selection and arrangement original enough that their combination constitutes an original work of authorship." *Satava*, 323 F.3d at 811.

#### **F. User Guides and Manuals (Technical Documents)**

Cisco provides excerpts from Cisco's technical documents (also referred to as user manuals, user guides, reference manuals, etc.) as protectable elements of Cisco's copyrighted works. PE 111. Cisco has encircled text with red boxes, each designating a purportedly protectable element. *Id.* Arista claims that Cisco has asserted infringement of more than 30 separate Cisco manuals. Arista Br. 14-15. Arista further argues that these elements are not protectable for the same reason as other categories of elements discussed above. *Id.* at 15.

The Court finds that each of these user guides and manuals are liken to a book, "a classic subject of copyright protection." *Bikram's Yoga Coll. of India, L.P. v. Evolution Yoga, LLC*, 803 F.3d 1032, 1037 (9th Cir. 2015) (citing *Baker v. Selden*, 101 U.S. 99, 101-02, (1879)). Although copyright protection of a book does not extend to its subject matter, such as a sequence of poses or a system of book-keeping, the expression in describing the subject matter is entitled to copyright protection. *Bikram*, 803 F.3d at 1037, 1042.

In sum, to the extent that the unprotectable elements described above appear in these

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<sup>2</sup> As the Court discussed in footnote 1, *supra*, alternative selections to "show" are particularly unpersuasive.

1 manuals, they are not protectable. Cisco is entitled to protection only for the creative aspects of  
2 the manuals, and each user manual as a whole.

#### 3 4 **IV. SCOPE OF COPYRIGHT PROTECTION**

5 As a final step of the extrinsic test after analytic dissection, the court determines the scope  
6 of copyright protection. *Apple*, 35 F.3d at 1443. “Broader protection” is generally accorded to  
7 artistic works and other analogous works because of the “endless variations of expression” that are  
8 available in such works; in those cases, the appropriate standard under the intrinsic analysis is  
9 substantially similar copying. *Id.* at 1446-47. However, if the range of possible expression is  
10 narrow, then the works are afforded only limited or thin protection and the appropriate standard  
11 under the intrinsic analysis is virtual identity. *Id.* at 1439; *Harper House, Inc. v. Thomas Nelson,*  
12 *Inc.*, 889 F.2d 197, 205 (9th Cir. 1989); *Mattel*, 616 F.3d at 914 (“If there’s only a narrow range of  
13 expression (for example, there are only so many ways to paint a red bouncy ball on blank canvas),  
14 then copyright protection is ‘thin’ and a work must be ‘virtually identical’ to infringe”).

15 The scope of protection thus correlates with the amount of original contribution relative to  
16 what has previously existed. *Satava*, 323 F.3d at 812. Compilations that consist largely of  
17 uncopyrightable elements receive only limited protection. *Harper House*, 889 F.2d at 205. To the  
18 extent that a work is functional or factual, such as accounting books or compilations of facts, the  
19 scope of protection is also thin. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 (9th Cir.  
20 1992) (citing *Baker v. Selden*, 101 U.S. 99, 101-02 (1879); *Feist*, 499 U.S. at 349). However, if  
21 the work is artistic, such as a decorative plate, it receives broader protection because of endless  
22 variations of expression available to the artist. *McCulloch v. Albert E. Price, Inc.*, 823 F.2d 316,  
23 321 (9th Cir. 1987). “Which end of the continuum a particular work falls on is a call that must be  
24 made case by case.” *Apple*, 35 F.3d at 1447.

##### 25 **A. Scope of Protection of Cisco’s User Interfaces**

26 As set forth above in the discussion on analytic dissection, the Court has found each of the  
27 following building blocks protectable as a compilation: (1) multiword command expressions; (2)  
28 modes and prompts; (3) command responses; and (4) help descriptions. Because each of these

1 building blocks is protectable as a compilation, the Court also finds that each of Cisco's user  
2 interfaces as a whole, is subject to protection as a compilation of those building blocks. *Metcalf*,  
3 294 F.3d at 1074 (holding that "[t]he particular sequence in which an author strings a significant  
4 number of unprotectable elements can itself be a protectable element").

5 Having found that Cisco's user interfaces, as a whole, and its four building blocks are  
6 protectable, the Court must consider the nature of the elements that comprise the compilations.  
7 Notably, none of the individual terms or abbreviations found in the multiword command  
8 expressions is protectable. As discussed above, it is the selection and arrangement of the  
9 command line expressions into a collection that is protectable. Similarly, the command responses  
10 are protectable only for their selection and arrangement in a collection. As to help descriptions,  
11 the Court has limited their protectability, finding those short phrases to be ordinary. *E.g., Satava*,  
12 323 F.3d at 812 (noting that protection should cover "no more than the original contribution to  
13 ideas already in the public domain"). Further, the modes and prompts are comprised of existing  
14 modes and prompts with the exception of "Global Configuration" and "Interface Configuration,"  
15 and protectability was sought by Cisco and allowed only as to the precise selection and order of  
16 the asserted modes and prompts. *Apple*, 35 F.3d at 1439 (holding that "[w]hen the range of  
17 protectable [] expression is narrow," scope of protection is thin). On these bases and reasons  
18 discussed above for analytic dissection, the Court finds that these compilations are comprised  
19 largely of unprotectable elements and thus subject to thin protection. *E.g., Eng 'g Dynamics, Inc.*  
20 *v. Structural Software, Inc.*, 26 F.3d 1335, 1348 (5th Cir. 1994) (holding that computer user  
21 interfaces, including the output formats, are "highly functional, or . . . to the extent that they  
22 contain highly standardized technical information" deserve thin protection); *Harper House*, 889  
23 F.2d at 205 (noting that compilations that consist largely of uncopyrightable elements receive only  
24 limited protection).

25 Because these building blocks of Cisco's user interfaces deserve only "thin" protection, the  
26 combinations of all of them in the user interfaces themselves are also subject to "thin" protection.  
27 *E.g., Feist*, 449 U.S. at 348 (holding that protection of factual compilations is thin and it is limited  
28 to just "those components of a work that are original to the author"). The fact that the work as a

1 whole may be composed of a few individual protectable elements does not imply that the  
2 substantial similarity standard applies to the work as a whole. *Apple Computer, Inc. v. Microsoft*  
3 *Corp.*, No. 88-20149, 1993 WL 207982, at \*2 (N.D. Cal. Apr. 14, 1993). Although Cisco argues  
4 that the range of expression is wide as there are many ways to create a user interface, it overlooks  
5 the evidence discussed herein, showing that there are many unprotectable aspects of its user  
6 interfaces, the limitations at the time of creation, and the fact that the idea of using a text-based  
7 user interface is not protectable. Cisco Br. 20. The Court also finds no persuasive evidence that  
8 the combination of the four building blocks alone constitutes a level of creative contribution that  
9 warrants broad protection.

10 Because each of the building blocks is a mere compilation comprised of a significant  
11 portion of unprotectable elements, without more, the Court does not find that the scope of  
12 protection for Cisco's user interfaces rises to a level of broad protection.

### 13 **B. Scope of Protection of User Manuals**

14 Based on Cisco's submission, the Court observes that the user manuals consist of phrases  
15 or sentences relating to definitions and descriptions of how the routers and switches work and  
16 contain some tables and formatting to present the information. As an example, one item identified  
17 by Cisco as protectable is "Displays the IP address of the host for which notification is generated."  
18 PE 114. Each manual is thus a compilation of definitions of commands and functional  
19 descriptions of the network devices, not unlike a factual compilation described in *Feist*, whose  
20 author "chooses which facts to include, in what order to place them, and how to arrange the  
21 collected data so that they may be used effectively by readers." 499 U.S. at 348. Such  
22 compilation is only entitled to thin protection. *Id.* at 349 (holding that "copyright in a factual  
23 compilation is thin"); *Honeywell Int'l, Inc. v. W. Support Grp., Inc.*, 947 F. Supp. 2d 1077, 1084  
24 (D. Ariz. 2013) (finding thin protection for maintenance manuals).

### 25 **C. Standard under the Intrinsic Test**

26 Given the finding of "thin" protection for Cisco's asserted works, the appropriate standard  
27 under the intrinsic analysis is for the trier of fact to compare the works for virtually identical  
28 copying. *Apple*, 35 F.3d at 1439. Infringement will be found only if the protectable elements

differ from one another by no more than a trivial degree. *O.P. Sols.*, 1999 WL 47191, at \*14.

## V. ORDER

Based on the conclusions reached herein, the Court will instruct the jury that the following aspects of the asserted elements are not protectable.

1. Individual words used in any of the asserted elements.
2. Individual multiword command line expressions.
3. The idea or method of grouping or clustering commands under common initial words, such as “show” or “ip.”
4. Multiword command hierarchies.
5. Specific modes and specific prompts.
6. The idea of a set pathway through a series of modes.
7. The idea of making certain commands available only in certain modes.
8. Use of command syntax such as “[verb] [object] [parameters].”
9. The choice of using a text-based user interface.
10. The idea of using multiword command expressions to manage or configure a device.
11. The function of any asserted feature.
12. The use of “?” to call up help descriptions.
13. Individual help description phrases.
14. Command prefixes that the user interface auto-completes.
15. Tab completions.

**IT IS SO ORDERED.**

Dated: December 9, 2016

  
 BETH LABSON FREEMAN  
 United States District Judge